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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,447	01/31/2000	Satoru Niwa	1832/40	4868

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/495,447

Applicant(s)

NIWA, SATORU

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-29 and 32-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15, 20, 35 and 37 is/are allowed.
- 6) ☒ Claim(s) 2-13, 16-19, 21-24, 29-34, 36 and 38 is/are rejected.
- 7) ☒ Claim(s) 14 and 25-28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 19 September 2001 is: a) ☒ approved b) ☐ disapproved by the Examiner
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 14.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 2-12, 14, 17, 18, 19, 21-23, 25-29, 32, and 33 objected to because of the following informalities: The phrase "An electrically" in line 1 should be changed to --The electrically-- . Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 5 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by Brooks. Brooks shows in figures 1 and 2 an electrically controlled braking system including an electrically controlled brake or parking brake not actually shown for braking a wheel of an automotive vehicle, an electric power source device 12, a brake operating member (the ignition, seat, and door to which switches 18, 24 and 26 are connected), and a brake control apparatus 32,33 for controlling an electric energy to be supplied from the electric power source device to the brake, for thereby controlling an operation of the brake when the brake operating member is operated, the braking system comprising: a switching device 18, 24,26 disposed between the electric power source device and the brake control apparatus, the switching device being turned on for

connecting the electric power source device to the brake control apparatus, in response to an operation of the brake operating member (activation of the ignition switch in combination with getting up from the seat or opening the door), wherein the switching device includes a plurality of switches in series with each other (18 in series with 24,26) and which are turned on commonly (occurring frequently) in response to the operation (frequent operation) of the brake operating member.

4. Claims 13, 16, 17, 24, 34, 36, and 38 are rejected under 35 U.S.C. 102(b) as being anticipated Giorgetti et al. Giorgetti et al. show in figure 1 an electrically controlled braking system including an electrically controlled brake for braking a wheel of an automotive vehicle, an electric power source device 13, a brake operating member 2, and a brake control apparatus 15, front left 17, rear right 17 for controlling an electric energy to be supplied from the electric power source device to the brake 18, for thereby controlling an operation of the brake when the brake operating member is operated, the braking system comprising: a switching device rear left 17 disposed between the electric power source device and at least one of the brake control apparatus and the brake, the switching device being turned on for connecting the electric power source device to the brake control apparatus in response to an operation for the brake operating member, wherein the electrically controlled brake includes a front brake for braking a front wheel and a rear brake for braking a rear wheel, and the brake control apparatus includes a front brake control device front left 17 and a rear brake control device rear right 17 for controlling the rear brake, the electric power source device including a plurality of electric power sources top and bottom 13 which

are arranged to supply electric energies to the front brake control device independently of each other and wherein the electrically controlled brake includes front rotor or front right 16 rotating with a front wheel, a friction member inherently included in the schematically shown disk brake assembly shown in the area of 16, and an electrically operated front brake actuator 11 for forcing the front friction member onto the front rotor.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks in view of European Patent to Maron et al. (corresponding to U.S. Patent 5957551 to Maron et al. as an English equivalent throughout the Office Action) and Giorgetti et al. Maron et al. teach in figure 1 the use of electrically controlled disk brakes 14 which inherently consist of a rotating rotor and a friction member.

It is well known in the art that various types of brakes are employed to stop or slow movement depending on the braking application. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brakes of Brooks to have included brakes, as taught by Maron et al., in order to provide an alternate means of effecting braking action on a rotating wheel.

Also, Giorgetti et al. teaches in figure 1 the use of electric motors 17 as electric brake actuators. It would have been obvious to one of ordinary skill in the art at the time

the invention was made to have modified the brake actuating means of Brooks to have included electric motors, as taught by Giorgetti et al., in order to provide an alternate means of actuating the electric braking means of the electrically controlled braking system.

7. Claims 3, 4, 18, 21, 22, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks in view of European Patent to Maron et al.

Re: claims 3, 4, 18, 21, 22 and 33. Maron et al. teach in figure 1 the use of electrically controlled disk brakes 14 which inherently consist of a rotating rotor and a friction member actuated to press the rotor.

It is well known in the art that various types of brakes can be employed to stop or slow movement depending on the braking application. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the brakes with disk brakes, as taught by Maron et al., in order to provide an alternate means of effecting braking action on a rotating wheel.

Maron et al. teach in figure 1 the use of electrically operated front brake actuator 12 on the upper right-hand side of the figure and an electrically operated rear brake actuator 12 on the upper left-hand side, a front brake power source 8 on the right-hand side of the figure, and a rear brake power source 8 on the left-hand side of the figure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the electrically controlled braking system of Brooks with a front and rear brake electric power sources, as taught by Maron et al., in order to

provide a prevent a total loss of braking capacity at both the front and rear sections of a vehicle in the case of failure of one of the electric power sources. (Re: claim 18)

Brooks, as modified, teaches the use of a brake control apparatus including a main control device 32 and an actuator control device 33. See Brooks figure 1. (Re: claim 21)

Providing a redundant environment in brake applications is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the electrically controlled braking system of Brooks to have included electrical power sources in parallel in order to provide an alternative level of redundancy to prevent the loss of brake actuation due to the failure of one of the switching device. (Re: claim 24)

Examiner notes that communication through local area network as a controller interface is well known in the art. (Re: claim 22)

8. Claims 6-8, 11-12 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks in view of Imanaka.

Re: claims 6-8 and 11-12. Imanaka teaches in figure 1 the use a plurality of a plurality of brake control devices 11 and 12 which are commonly known to principally constitute a computer. Imanaka also teaches the use of a plurality of electric power sources labeled power source and battery BDC in figure 1. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the electrically controlled braking system of Brooks with a plurality of control devices and electric power sources, as taught by Imanaka, in order to provide a level of

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redundancy in the case of failure of one of the control devices or electric power sources. Also, in view of the teachings of Imanaka, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the electrically controlled braking system with at least three control devices in order to provide a particular level of redundancy dictated by the particular braking application.

Re: claim 29. Imanaka teaches in the abstract the use of a mechanical friction brake which is brought into a connecting state when an electrical abnormality with the electric brake occurs. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Brooks with a mechanical operated brake triggered to a connected state during abnormal states in the electric brake, as taught by Imanaka, in order to provide a reliable alternate means of effecting braking action of a wheel in the event of failure of the electric brake. This expedient is another of example of providing a level of redundancy in the braking system.

9. Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks in view of Imanaka as applied to claims 1 and 6 above, and further in view of JP 5-158742. JP 5-158742 teaches in lines 1-3 of the constitution provided with the English translation of the abstract the use of devices for detecting an abnormality of the actuator control device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the electrically controlled braking system of Brooks, as modified, with an abnormality detecting device, as taught by JP 5-158742, in order to provide a means of securing the safe operation of the brake system.

10. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brooks in view of European Patent to Maron et al. as applied to claims 21 above, and further in view of JP 5-158742. JP 5-158742 teaches in lines 1-3 of the constitution provided with the English translation of the abstract the use of devices for detecting an abnormality of the actuator control device. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the electrically controlled braking system of Brooks, as modified, with an abnormality detecting device, as taught by JP 5-158742, in order to provide a means of securing the safe operation of the brake system.

Allowable Subject Matter

11. Claims 14, 25-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

12. Claims 15, 35, 20 and 37 are allowed.

Response to Arguments

13. Applicant's arguments filed 6/25/02 have been fully considered but they are not persuasive. With respect to the arguments regarding Brooks, it is maintained that the statement that the brake operating member recited in the claim is designed to be operated so that braking may occur with an operator present in a vehicle is more specific than the claim language. Also, as broadly recited, Examiner notes that

"commonly" is defined as "occurring or appearing frequently" as defined by Webster's Collegiate Dictionary 10th Edition. With respect to the arguments regarding Giorgetti et al. it is noted that electric power source is represented by element 13 and the switching device is represented by left rear element 17.

14. Applicant's arguments with respect to claims previously depending from cancelled claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmB 9/30/02
mmB
September 30, 2002

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